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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,352	08/15/2003	Youqi Wang	SYMXP011	1608

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Law Offices of Cindy Kaplan/Symyx
P.O. BOX 2448
SARATOGA, CA 95070

EXAMINER	
VAN, LUAN V	

ART UNIT	PAPER NUMBER
1753	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,352	WANG ET AL.	
	Examiner	Art Unit	
	Luan V. Van	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) *29-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28, 48-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment of May 15, 2007 does not render the application allowable.

The amendment is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claims 48-51 are amended to recite the limitation of "without exposing an end surface of the body". However, there is no evidence in the applicant's disclosure to support the amended limitation. The disclosure, therefore, does not provide a clear indication to support the limitation. Applicant is required to cancel the new matter in the reply to this Office Action.

Status of Objections and Rejections

All rejections from the previous office action are maintained.

New grounds of rejection under 35 U.S.C. 103(a) are necessitated by the amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 48-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 48-51 are amended to recite the limitation of "without exposing an end surface of the body". However, there is no evidence in the applicant's disclosure to support the amended limitation. The disclosure, therefore, does not provide a clear indication to support the limitation. The amended limitation is also unclear, because it can be interpreted that none of the surfaces are exposed. However, the instant specification (page 10 lines 12-16) discloses that at least a portion of the outer diameter surface and the front surface of the body is in contact with the electrolyte solution.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9, 12-14, 23, 27, 28 and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Donne.

Regarding claim 1, Donne teaches a system for preparing electrochemical materials, the system comprising a high temperature synthesis device for preparing an array of electrochemical materials as electrolytic surfaces of working electrodes, at least a portion of the electrolytic surfaces being defined by different materials, the device comprising: a plurality of openings (in base 10 of Fig. 2 and Fig. 3) for receiving the array of working electrodes 22; and a mask (i.e., base 10) having a plurality of openings configured for exposing at least a portion of each of the working electrodes for forming the electrolytic surfaces on the working electrodes.

With respect to be amended limitation of exposing only a portion of an end surface of the working electrode, the apparatus of number 1 is structurally capable of exposing only the end surface of the working electrode 22, because electrode 22 has external threads 26 that would enable it to be positioned or screwed up or down such that it is flush with the holder 12 or body 10 in Fig. 2. Similarly, holder 12 has external threads 20 that would enable it to be positioned or screwed up or down such that it is flush with body 10 in Fig. 2. Therefore, the apparatus of number 1 anticipates the instant claim.

Regarding claim 2 and 3, Donne teaches the device is made of a ceramic material (column 7 lines 36-38), which is the same material as that of the instant device and thus would be capable of being operated at a temperature of at least 300° C.

Regarding claim 4, Donne teaches the electrodes are detachable from the device (column 7 lines 56-67).

Regarding claim 5, Donne teaches the device is configured for receiving an array of 16 working electrodes (Fig. 1).

Regarding claim 9, Donne teaches the device comprises a holder block 50A in Fig. 3 with openings formed therein.

Regarding claim 12, Donne teaches the holder block 50A is formed from a polymer material (column 9 lines 58-59).

Regarding claim 13, Donne teaches the mask is attached to the front surface of the holder block (Fig. 3).

Regarding claim 14, Donne teaches the device comprises a back plate 50B (Fig. 3) for retaining the working electrodes within the device.

Regarding claim 23, Donne teaches the mask is formed of a ceramic material (column 7 lines 36-38).

Regarding claim 27, Donne teaches the mask is formed of Teflon (column 9 lines 58-59).

Regarding claim 28, the device of Donne is structurally capable of having electrocatalysts formed on the electrodes.

Regarding claim 48, Donne teaches a system for preparing electrochemical material, the system comprising a high temperature synthesis device for preparing an array of electrolytic surfaces of working electrodes each comprising a body (i.e., holder 12 is interpreted as the body in the instant claim) and an insert (i.e., electrodes 22)

supported by the body, the electrolytic surfaces being formed by electroplating (column 4 lines 44-48), the device comprising a holder block (base 10) having a plurality of openings formed therein for receiving the array of working electrodes positioned such that a portion of the insert is exposed for forming the electrolytic surface thereon.

With respect to the amended limitation of "without exposing an end surface of the body", the apparatus of number 1 broadly reads on this limitation, because the end surface of holder 12 that is attached to the housing is not exposed. Therefore, the apparatus of number 1 anticipates the instant claim.

Regarding claim 49, Donne teaches the device is made of a ceramic material (column 7 lines 36-38), which is the same material as that of the instant device and thus would be capable of being operated at a temperature of at least 300° C.

Regarding claim 50, Donne teaches the electrodes are detachable from the device (column 7 lines 56-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6-8 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donne in view of Admitted Prior Art.

Donne teaches the apparatus as described above. Donne differs from the instant claims in that the reference does not explicitly teach rotating disk electrodes. However, Donne teaches an electrically insulating body 50A (Fig. 3) and an electrically conductive insert 22 supported by the body. Furthermore, Admitted Prior Art discloses on pages 1-2 that rotating disk electrodes are conventionally known for using the electrochemical screening systems.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Donne by using rotating disk electrodes as taught by the Admitted Prior Art, because such electrodes would be useful for screening electrochemical reactions.

Claims 10, 15 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donne.

Donne teaches the apparatus as described above. Donne differs from the instant claims in that the reference does not explicitly teach cylindrical shape (claim 10), a plurality of openings in the back plate (claim 15), or tapered openings (claims 18-21).

Addressing claim 10, Donne teaches a rectangular shaped structure as seen in Fig. 1. It would have been obvious to one having ordinary skill in the art to have modified the shape of the device absent persuasive evidence that the particular configuration of the claimed device is significant. MPEP 2144.04 (IVB).

Addressing claim 15, Donne teaches a mask or base 10 and body or housing 50A having a plurality of openings formed therein. Further, Donne teaches the back plate or housing 50B having an opening 56. It would have been obvious to one having ordinary skill in the art to have modified the back plate to have a plurality of openings, because it would be an obvious duplication of essential subject matter, and because it would allow individual electrodes to be independently controlled.

Addressing claims 18-21, it would have been obvious to one having ordinary skill in the art to have modified the shape of the openings absent persuasive evidence that the particular configuration of the claimed device is significant. MPEP 2144.04 (IVB).

Claims 11 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Donne in view of Perlman.

Donne teaches the apparatus as described above. Donne differs from the instant claims in that the reference does not explicitly teach the holder and mask is made of stainless steel.

Perlman teach an electrode holder made of stainless steel (column 8 lines 18-38).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Donne by having made the holder and mask out of stainless steel as taught by Perlman, because it would be resistant to the destructive action of electrolyte and other elements (column 8 lines 18-38 of Perlman).

Claim 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donne in view of Miller et al.

Donne teaches the apparatus as described above. Donne differs from the instant claims in that the reference does not explicitly teach an electrochemical cell for receiving the array.

Miller et al. teach an electrochemical cell comprising a cavity for containing a liquid electrolyte and sized for receiving at least a portion of the rate of working electrodes installed in the device (Fig. 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Donne by using the electrochemical cell of Miller et al., because it would allow metal to be electrochemically deposited on the working electrodes.

Claim 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donne in view of Glass et al.

Donne teaches the apparatus as described above. Donne differs from the instant claims in that the reference does not explicitly teach a silicon mask.

Glass et al. teach a detector using a silicon wafer for masking the microelectrodes (Fig. 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Donne by using the silicon mask of Glass et al., because selection of a known material based on its suitability for its intended use, such as a mask, is prima facie obviousness. Further, it would have been obvious to have expected that an opening in a silicon substrate would have the angle of the instant claim, because a silicon wafer would have a crystal orientation of the same angle.

Response to Arguments

Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LVV
June 21, 2007

Edna Wong
EDNA WONG
PRIMARY EXAMINER
6/25/07